

CLAIMS

What is claimed is:

1. A factory scale process for producing crystalline atorvastatin trihydrate hemi calcium salt comprising the steps of:
 - 5 (a) reacting a mixture of atorvastatin lactone, methanol, and methyl *tert*-butyl ether with sodium hydroxide to form the ring-opened sodium salt;
 - (b) forming a product rich aqueous layer and an organic layer comprising methyl *tert*-butyl ether containing impurities;
 - 10 (c) removing the organic layer comprising methyl *tert*-butyl ether containing impurities;
 - (d) extracting the product rich aqueous layer with methyl *tert*-butyl ether;
 - (e) adding an extra charge of methyl *tert*-butyl ether to a vessel
15 containing the product rich aqueous layer in an amount of at least 1% w/v of the contents of the vessel;
 - (f) sealing the reaction vessel;
 - (g) heating the contents of the sealed reaction vessel to 47°C to 57°C in the presence of the extra charge of methyl *tert*-butyl ether which
20 saturates the crystallization matrix on heating;
 - (h) adding calcium acetate hemihydrate to the sealed reaction vessel to form atorvastatin trihydrate hemi calcium salt;
 - (i) providing a vacuum pan dryer having an agitator; and
 - 25 (j) drying the isolated product in a vacuum pan dryer whilst continuously rotating the agitator at a speed of from 0.5 rpm to 2 rpm.
2. A process as claimed in Claim 1 comprising continuously rotating the agitator at a speed of approximately 1 rpm.

3. A process as claimed in Claim 1 comprising maintaining vacuum in the pan dryer at a pressure of from -0.80 to -0.99 bar.
4. A process as claimed in Claim 2 comprising maintaining vacuum in the pan dryer at a pressure of from -0.80 to -0.99 bar.
- 5 5. A process as claimed in Claim 1 comprising drying the isolated product over a period of from 1 to 4 days.
6. A process as claimed in Claim 2 comprising drying the isolated product over a period of from 1 to 4 days.
7. A process as claimed in Claim 1 comprising drying the isolated product over a period of from 1 to 2 days.
- 10 8. A process as claimed in Claim 2 comprising drying the isolated product over a period of from 1 to 2 days.